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TERADYNE, INC 321 HARRISON AVE BOSTON, MA 02118			KADING, JOSHUA A	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/692,169

Applicant(s)

ROSEN, JOSEPH S.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☒ Claim(s) 2, 10, 12, 20, 37, and 42 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Objections

Claims 2, 10, 12, 20, 37, and 42 are objected to because of the following informalities:

5 Claim 2, line 3 states, "coverage of the system". It should read, --coverage of the test system--.

 Claim 10, line 2 states, "on the date rate". It should read, --on the data rate--.

 Claim 12, line 1 states, "wherein said step of color-coding". It should read, --wherein a further step of color-coding--.

10 Claim 20, lines 3-4 state, "coverage of the system". It should read, --coverage of the test system--.

 Claim 37, line 2 states, "end a far end modem". It should read, --end and a far end modem--.

 Claim 37, line 3 states, "predicts data rate". It should read,
15 --predicts a data rate--.

 Claim 42, line 4 states, "within the table bundle". It should read, --within the cable bundle--.

 Appropriate correction is required.

20 ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 2, 12, 17, 18, 20, 30, 35, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5 In regard to claims 2, 12, 18, 20, 30, and 36, applicant discloses "area of coverage of the [test] system" or "the coverage of said line testing". It is unclear from the specification what is meant by "coverage". Although applicant's specification, page 15, lines 14, and 21-22 disclose that the "area of expertise" is similar to "coverage", and that "area of expertise" is defined as "scenarios in which the system makes a prediction
10 which is relied upon by the user" - It is still unclear what criteria "coverage" consists of.

 In regard to claims 17 and 35, applicant discloses "the dependability". It is unclear from the specification what constitutes "dependability"; i.e. what criteria does "dependability" consist of?

15

Claim Rejections - 35 USC § 103

 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 5, 8, 9, 13-16, 19, 21, 22, 23, 26, 27, 31-34, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu et al. (U.S. Patent 5,528,661) in view of Posthuma (U.S. Patent 6,456,694 B1).

5 In regard to claims 1 and 19, Siu discloses "a method of preparing results from predicting the ability of an existing line to support high-speed access comprising the steps of:

 receiving the results of line testing for high speed access from a test system (col. 2, lines 27-38 where the programmable test device is a test system and the results must
10 have been received because they are logged; it should also be noted that although a computer program is not explicitly stated in Siu, the programmable test device must use a program with a set of instructions to execute the method, it therefore is stated that all method steps must require instructions to be executed using the programmable test device); and

15 binning the test results into one of at least three categories, wherein a first of said at least three categories indicates the selected line cannot support high speed access, wherein a second of said at least three categories indicates the selected line can support high speed access (col. 2, lines 38-44 where PASS corresponds to the category of being able to support high speed access and FAIL corresponds to the category of not
20 being able to support high speed access)..."

 However, Siu lacks "...wherein a third of said at least three categories indicates the selected line cannot currently support high speed access."

Posthuma however, discloses "...wherein a third of said at least three categories indicates the selected line cannot currently support high speed access (col. 5, lines 10-17 where the lines currently cannot support high speed access because of the load coils; however, if the load coils were removed high speed access would possibly be supported)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the third binning category with the other two binning categories for the purpose of quickly identifying the capability of transmission lines to support high speed access to form an accurate assessment of high speed capabilities. The motivation being that accurate knowledge of lines with high speed capabilities avoids wasteful spending of time and money on lines not capable of high speed access.

In regard to claims 3 and 21, Siu and Posthuma disclose the method and computer program of claims 1 and 19. However, Siu and Posthuma lack "wherein said step of receiving the results of line testing comprises receiving the results of line testing for ISDN access." However, it would have been obvious to one with ordinary skill in the art at the time of invention to include the ISDN access with the method and computer program of claims 1 and 19 as a matter of design choice. The motivation being that any high speed data access system can be used as long as it is testable.

In regard to claims 4 and 22, Siu and Posthuma disclose the method and computer program of claims 1 and 19. However, Siu lacks "wherein said step of

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receiving the results of line testing comprises receiving the results of line testing for xDSL access." Posthuma however, further discloses "wherein said step of receiving the results of line testing comprises receiving the results of line testing for xDSL access (col. 6, lines 19-23)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the xDSL access with the method and computer program of claims 1 and 19 for the same reasons and motivation as in claims 1 and 19.

In regard to claims 5 and 23, Siu and Posthuma disclose the method and computer program of claims 4 and 22. However, Siu lacks "wherein said step of receiving the results of line testing for xDSL access comprises receiving the results of line testing for ADSL access." Posthuma however, further discloses "wherein said step of receiving the results of line testing for xDSL access comprises receiving the results of line testing for ADSL access (col. 6, lines 19-23)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the ADSL access with the method and computer program of claims 4 and 23 for the same reasons and motivation as in claims 4 and 23.

In regard to claims 8 26, Siu and Posthuma disclose the method and computer program of claims 1 and 19. However, Siu lacks "wherein said step of binning the test results further comprises said third of at least three categories would be able to support high speed access upon removal of an impediment on said selected line." Posthuma however, further discloses "wherein said step of binning the test results further

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comprises said third of at least three categories would be able to support high speed access upon removal of an impediment on said selected line (col. 5, lines 10-17)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the removal of the impediment with the method and computer program of claims

5 1 and 19 for the same reasons and motivation as in claims 1 and 19.

In regard to claims 9 and 27, Siu and Posthuma disclose the method and computer program of claims 8 and 26. However, Siu lacks "wherein said impediment is selected from the group consisting of a load coil and a bridged tap." Posthuma however, 10 further discloses "wherein said impediment is selected from the group consisting of a load coil and a bridged tap (col. 5, lines 10-17)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the load coil with the method and computer program of claims 8 and 26 for the same reasons and motivation as in claims 8 and 26.

15

In regard to claims 13 and 31, Siu and Posthuma disclose the method and computer program of claims 1 and 19. However, Posthuma lacks "the initial step of testing a line." Siu however, further discloses "the initial step of testing a line (col. 2, lines 27-37)." It would have been obvious to one with ordinary skill in the art at the time 20 of invention to include initial step of testing a line with the method and computer program of claim 1 and 19 for the same reasons and motivation as in claims 1 and 19.

In regard to claims 14 and 32, Siu and Posthuma disclose the method and computer program of claims 13 and 31. However, Siu lacks "driving said line with a signal; measuring said line; estimating characteristics of said line from the results of said measuring said line; and predicting a data rate supportable by said line from said
5 line characteristics."

Posthuma however, further discloses "driving said line with a signal (col. 5, line 62-66); measuring said line (col. 6, lines 4-8); estimating characteristics of said line from the results of said measuring said line (col. 6, lines 12-19); and predicting a data rate supportable by said line from said line characteristics (col. 6, lines 19-23)."

10 It would have been obvious to one with ordinary skill in the art at the time of invention to include the more in depth testing procedure with the method and computer program of claims 13 and 31 for the purpose of ascertaining line characteristics non-obtrusively. The motivation being a more efficient response to customer's requests for high speed access.

15 In regard to claims 15 and 33, Siu and Posthuma disclose the method and computer program of claims 14 and 32. However, Siu lacks "wherein said step of estimating characteristics of said line include at least one of:... determining the presence of a load coil on said line..." Posthuma however, further discloses "wherein
20 said step of estimating characteristics of said line include at least one of:... determining the presence of a load coil on said line (col. 6, lines 15-17)..." It would have been obvious to one with ordinary skill in the art at the time of invention to include the

"determining the presence of a load coil on said line" with the method and computer program of claims 14 and 32 for the same reasons and motivation as in claims 14 and 32.

5 In regard to claims 16 and 34, Siu and Posthuma disclose the method and computer program of claims 15 and 33. However, Siu lacks "wherein said step of determining the presence of other path elements includes at least one of:... determining the presence of a filter..." Posthuma however, further discloses "wherein said step of determining the presence of other path elements includes at least one of:... determining
10 the presence of a filter (col. 6, lines 15-17 where, as is known in the art, a load coil is a low-pass filter)..." It would have been obvious to one with ordinary skill in the art at the time of invention to include the "determining the presence of a filter" with the method and computer program of claims 15 and 33 for the same reasons and motivation as in claims 15 and 33.

15

In regard to claim 37, Siu discloses "a method of predicting the data rate of a line for carrying signals between a near end a far end modem, comprising:

a) providing information that predicts data rate on a line for each of a plurality of line models (col. 2, lines 27-41 where the "standards" are the line models and the test
20 results are the information provided);

b) making measurements on the line and using the measurements to select one of the plurality of line models to represent the line (col. 2, lines 27-41)..."

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However, Siu lacks "...c) selecting the data rate from the information provided for the selected line model." Posthuma however, discloses "...c) selecting the data rate from the information provided for the selected line model (col. 6, lines 19-21 where VDSL and ADSL represent different data rates)."

5 It would have been obvious to one with ordinary skill in the art at the time of invention to include step (C) with the rest of the method for the purpose of assigning an appropriate data rate to the line based on the characteristics of the line. The motivation being that the line will be able to handle the assigned data rate and be less likely to fail.

10 In regard to claim 38, Siu and Posthuma disclose the method of claim 37. However, Siu lacks "wherein the provided information that predicts data rate includes rates for upstream and downstream data transmissions." Posthuma however, further discloses "wherein the provided information that predicts data rate includes rates for upstream and downstream data transmissions (col. 6, lines 19-23 where it is known in
15 the art that ADSL has different rates for upstream and downstream traffic; it should also be noted that although Posthuma does not explicitly say the provided information contains information about data rates for upstream and downstream transmission, the different data rates for each stream must be in the information to qualify the line for ADSL transmission)." It would have been obvious to one with ordinary skill in the art at
20 the time of invention to include the downstream and upstream data rates with the method of claim 37 for the same reasons and motivation as in claim 37.

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In regard to claim 39, Siu and Posthuma disclose the method of claim 37.

However, Siu lacks "wherein the plurality of line models includes models of lines differing lengths." Posthuma however, further discloses "wherein the plurality of line models includes models of lines differing lengths (col. 6, lines 15-17)." It would have

5 been obvious to one with ordinary skill in the art at the time of invention to include the line lengths with the method of claim 37 for the same reasons and motivation as in claim 37.

In regard to claim 40, Siu and Posthuma disclose the method of claim 37.

10 However, Siu lacks "wherein the plurality of line models include models of lines having bridge taps at differing locations." Posthuma however, further discloses "wherein the plurality of line models include models of lines having bridge taps at differing locations (col. 6, lines 15-17 where it is known in the art that bridge taps are access points to different residences (i.e. different line connections) and therefore must be placed at

15 differing locations)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the bridge taps with the method of claim 37 for the same reasons and motivation as in claim 37.

In regard to claim 41, Siu and Posthuma disclose the method of claim 37.

20 However, Posthum lacks "wherein the step of providing information that predicts data rate on a line for each of a plurality of line models comprises: a) providing sets of data, each data set providing information that predicts the data rate using a particular near

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end and far end modem, and b) selecting one of the data sets based on the pair of modems used on the line." Siu however, further discloses "wherein the step of providing information that predicts data rate on a line for each of a plurality of line models comprises: a) providing sets of data, each data set providing information that predicts the data rate using a particular near end and far end modem (col. 2, lines 27-41 where the results are the sets of data; figure 1, elements 24 and 23 are the far and near end modems), and b) selecting one of the data sets based on the pair of modems used on the line (col. 2, lines 41-44 where by categorizing the line as PASS, MARGINAL, or FAIL the appropriate data set has been selected)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the near end and far end modems with the method of claim 37 for the same reasons and motivation as in claim 37.

Claims 6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu and Posthuma as applied to claims 5 and 23 above, and further in view of Sanderson (U.S. Patent 6,292,468 B1).

In regard to claims 6 and 24, Siu and Posthuma disclose the method and computer program of claims 5 and 23. However, Siu and Posthuma lack "wherein said ADSL access comprises at least one of G.lite access and G.dmt access." Sanderson however, further discloses "wherein said ADSL access comprises at least one of G.lite access and G.dmt access (col. 6, lines 9-11)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the G.lite access with the

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method and computer program of claims 5 and 23 for the purpose of defining a data rate for the line. The motivation being that a defined data rate is more easily tested and verified.

5 Claims 7, 11, 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu and Posthuma as applied to claims 1 and 19 above, and further in view of Sanderson (U.S. Patent 6,292,468 B1).

 In regard to claims 7 and 25, Siu and Posthuma disclose the method and
10 computer program of claims 1 and 19. However, Siu and Posthuma lack "further comprising the step of color-coding each of said categories, wherein each category has a respective color." Sanderson however, discloses "further comprising the step of color-coding each of said categories, wherein each category has a respective color (col. 6, lines 41-51)." It would have been obvious to one with ordinary skill in the art at the time
15 of invention to include the color-coding with the method and computer programming of claims 1 and 19 for the purpose of notifying the user of a line condition. The motivation being easy classification of the line condition based on the color shown.

 In regard to claim 11, Siu, Posthuma, and Sanderson disclose the method of
20 claim 7. However, Siu and Posthuma lack "wherein said step of color-coding comprises coding said first of said at least three categories red, said second of said at least three categories green and said third of said at least three categories yellow." Sanderson

however, further discloses "wherein said step of color-coding comprises coding said first of said at least three categories red, said second of said at least three categories green and said third of said at least three categories yellow (col. 6, lines 41-51 although the colors green and yellow are not explicitly mentioned it is clear that Sanderson uses

5 colors to code the different types of line classifications and the task of choosing a color is a matter of design choice)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the color coding scheme with the method of claim 7 for the same reasons and motivation as in claim 7.

10 In regard to claim 29, Siu and Posthuma disclose the computer program of claim 19. However, Siu and Posthuma lack "wherein said first of said at least three categories is color-coded red, said second of said at least three categories is color coded green and said third of said at least three categories is color-coded yellow." Sanderson

15 however, discloses "wherein said first of said at least three categories is color-coded red, said second of said at least three categories is color coded green and said third of said at least three categories is color-coded yellow (col. 6, lines 41-51 although the colors green and yellow are not explicitly mentioned it is clear that Sanderson uses

20 colors to code the different types of line classifications and the task of choosing a color is a matter of design choice)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the color-coding scheme with the computer program of claim 19 for the purpose of notifying the user of a line condition. The motivation being easy classification of the line condition based on the color shown.

Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu and Posthuma as applied to claims 1 and 19 above, and further in view of Yokell et al. (U.S. Patent 6,507,870 B1).

5 In regard to claims 10 and 28, Siu and Posthuma disclose the method and computer program of claims 1 and 19. However, Siu and Posthuma lack "further comprising the step of billing for said selected line based on the date rate supported by said selected line." Yokell however, discloses "further comprising the step of billing for said selected line based on the date rate supported by said selected line (col. 15, lines
10 5-9 where Yokell is describing a high speed access service being provided and the different speeds or data rates for this high speed service are priced differently)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the appropriate price for the corresponding data rate for the purpose of allowing the customer to choose the appropriate high speed access data plan. The motivation being
15 more flexibility in choosing an affordable high speed access data plan.

Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingel et al. (U.S. Patent 6,014,425) in view of Posthuma.

20 In regard to claim 42, Bingel discloses "a method of predicting the data rate of a line under test within a cable bundle, comprising:

a) determining a model of noise on the line from a prediction of the number of disturbing signals that are carried within the [c]able bundle (col. 2, lines 53-63 where the cable bundle is the POTS lines and the prediction of the number of disturbing signals is based on the stored test sequence contained in memory)...

5 However, Bingel lacks "...b) de-rating the performance of the line based on the noise model." Posthuma however, discloses "...b) de-rating the performance of the line based on the noise model (col. 6, lines 19-23 where the de-rating is the choosing of the service capability based on the characteristics measured in Bingel)."

10 It would have been obvious to one with ordinary skill in the art at the time of invention to include the de-rating with the determining for the purpose of assigning an appropriate data rate to the line based on the characteristics of the line. The motivation being that the line will be able to handle the assigned data rate and be less likely to fail.

In regard to claim 43, Bingel and Posthuma disclose the method of claim 42.

15 However, Bingel lacks "wherein the step of de-rating comprises: a) measuring in advance performance of a plurality of model lines when a plurality of combinations of disturbing signals are present; b) measuring characteristics of the line under test and matching the line under test to one of the plurality of model lines; c) selecting one of the combinations of disturbing signals expected to be present in the cable bundle; d)
20 predicting the data rate by selecting an advanced measurement that correlates with the matched line model and the selected combination of disturbing signals." Posthuma however, further discloses "wherein the step of de-rating comprises: a) measuring in

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advance performance of a plurality of model lines when a plurality of combinations of disturbing signals are present (col. 6, lines 19-21 where high speed services are the model lines and all have their own performance thresholds that must be met in order to use these lines); b) measuring characteristics of the line under test and matching the

5 line under test to one of the plurality of model lines (col. 6, lines 12-21); c) selecting one of the combinations of disturbing signals expected to be present in the cable bundle (col. 6, lines 19-23 where selection of the appropriate high speed service implies that the measured characteristics take into account the disturbing signals and other variants in the matched model to choose an appropriate service); d) predicting the data rate by

10 selecting an advanced measurement that correlates with the matched line model and the selected combination of disturbing signals (col. 6, lines 19-23)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the more in depth steps of de-rating for the same reasons and motivation as in claim 42.

15

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

20 supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

5



JK
January 14, 2004

Joshua Kading
Examiner
Art Unit 2661



KENNETH VANDERPUYE
PRIMARY EXAMINER